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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/577,673	04/28/2006	Bruce Halcro Candy	04465/022001	8479

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EXAMINER
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WHITTINGTON, KENNETH

ART UNIT	PAPER NUMBER
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2862

NOTIFICATION DATE	DELIVERY MODE
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05/15/2008

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

docketing@oshaliang.com  
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<b>Office Action Summary</b>	<b>Application No.</b> 10/577,673	<b>Applicant(s)</b> CANDY, BRUCE HALCRO	
	<b>Examiner</b> KENNETH J. WHITTINGTON	<b>Art Unit</b> 2862	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 9-11 is/are rejected.
- 7) ☒ Claim(s) 2-8 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 November 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>4/28/06</u> . | 6) <input type="checkbox"/> Other: ____.  |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 9-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Candy (US4942360). Regarding claim 1, Candy discloses

a transmit coil adapted to transmit an alternating magnetic field associated with a reactive transmit voltage (See Candy FIG. V, item 66);

transmit electronics adapted to generate a transmit voltage signal which is applied to the transmit coil (See circuitry shown in lower portion of FIG. V); and

receive electronics adapted to receive a magnetic field signal and process received signals to produce an indicator output (See FIG. V, receive coil 120 and receive electronics associated therewith),

wherein the transmit voltage signal is selected such that the reactive transmit voltage is approximately constant for at

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least a time period during which a magnetic field signal to be processed is received by the receive electronics (See col. 9, line 11 to col. 10, line 53, particularly col. 9, lines 28-35).

Regarding claim 9, Candy discloses a method of detection of metal for use in environments of varying magnetic permeability, including generation of a search signal wherein a ratio of reactive transmit voltages at each of at least two frequencies is substantially constant for a selected range of transmit coil effective inductive component impedance (See FIG. V, note each of items 72, 82 and 83 produce constant reactive transmit voltages at differing frequencies, thus a ratio of these voltages would be constant as well).

Regarding claim 10, Candy discloses the search signal is selected such that the reactive transmit voltage is approximately constant for at least a time period during which a magnetic field signal returned from a search environment is being received (See col. 9, line 11 to col. 10, line 53, particularly col. 9, lines 28-35).

Regarding claim 11, Candy discloses a method of detection of metal for use in environments of varying magnetic permeability, including the use of an electronic metal detector as claimed in claim 1 (See discussion of claim 1 above and rest of disclosure of Candy).

***Allowable Subject Matter***

Claims 2-8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claims 2-4 and 6-8, the prior art does not show or teach using a linear amplifier and the transmit voltage changing linearly during the third time period as recited in the claims and in combination with the other features of the claims.

Regarding claim 5, the prior art does not show or teach the electronics effecting a negative resistance that is met by the transmit voltage as recited in the claim and in combination with the other features of the claim.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KENNETH J. WHITTINGTON whose telephone number is (571)272-2264. The examiner can normally be reached on Monday-Friday, 7:30am-4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Assouad can be reached on (571) 272-2210. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kenneth J Whittington/  
Primary Examiner, Art Unit 2862